

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANTS: Chatterjee, Deb  
Longo, Mary  
Flynn, Elizabeth  
Oberfelder, Robert

(ii) TITLE OF INVENTION: Methods for Production of Proteins

(iii) NUMBER OF SEQUENCES: 17

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
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(C) CITY: Washington  
(D) STATE: DC  
(E) COUNTRY: USA  
(F) ZIP: 20005

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: (To Be Assigned)  
(B) FILING DATE: 08-JAN-1998  
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: US 60/034,658  
(B) FILING DATE: 08-JAN-1997  
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Esmond, Robert W.  
(B) REGISTRATION NUMBER: 32,893  
(C) REFERENCE/DOCKET NUMBER: 0942.4200001

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: 202-371-2600  
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(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 270 base pairs  
(B) TYPE: nucleic acid

(C) STRANDEDNESS: both

(D) TOPOLOGY: both

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

```
5  CTCGGGTACA  ACACTGACAA  TAAAGAGTAC  GTTCTTGTTA  AACTTAAGGG  TTTTCTTCT  60
    GAAGATAAAG  GCGAGTGGAA  ACTGAAACTC  GATAATGCGG  GTAACGGTCA  AGCAGTAATT  120
    CGTTTTCTTC  CGTCTAAAAA  TGATGAACAA  GCACCATTCG  CAATTCTTGT  AAATCACGGT  180
    TTCAAGAAAA  ATGGTAAATG  GTATATTGAA  ACATCATCTA  CCCATGATTA  CGATTCTCCA  240
    GTACAATACA  TCAGTAAAAA  TGATCTCGGG  270
```

10 (2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 263 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: both

15 (D) TOPOLOGY: both

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

```
CCATGGGTTT  TTCTTCTGAA  GATAAAGGCG  AGTGGAAACT  GAAACTCGAT  AATGCGGGTA  60
ACGGTCAAGC  AGTAATTCGT  TTTCTTCCGT  CTAAAAATGA  TGAACAAGCA  CCATTCGCAA  120
20  TTCTTGTAAG  TCACGGTTTC  AAGAAAAATG  CTAAATGGTA  TATTGAAACA  TCATCTACCC  180
    ATGATTACGA  TTCTCCAGTA  CAATACATCA  GTAAAAATGA  TCTCGGGTAC  AACACTGACA  240
    ATAAACACCA  CCACCACCAC  CAC  263
```

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 22 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: both

(D) TOPOLOGY: both

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

AGGAAATACT TACATATGAG CG

22

(2) INFORMATION FOR SEQ ID NO:4:

- 5 (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 56 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: both  
    (D) TOPOLOGY: both

10 (ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

TATTACTGCA GTTAGTGGTG GTGGTGGTGG TGTTCCACCGT TTTTGAACAG CAGCAG

56

(2) INFORMATION FOR SEQ ID NO:5:

- 15 (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 280 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: both  
    (D) TOPOLOGY: both

(ii) MOLECULE TYPE: cDNA

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

CATATGAGCG ATAAAATTAT TCACCTGACT GACGACAGTT TTGACACGGA TGTACTCAAA 60

GCGGACGGGG CGATCCTCGT CGATTTCTGG GCAGAGTGGT GCGGTCCGTG CAAAATGATC 120

GCCCCGATTC TGGATGAAAT CGCTGACGAA TATCAGGGCA AACTGACCGT TGCAAAACTG 180

AACATCGATC AAAACCCTGC TCACTGCGCC GAAATATGGC ATCCGTGGTA TCCC GACTCT 240

25 GCTGCTGTTC AAAAACGGTG AACACCACCA CCACCACCAC 280

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 36 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: both  
    (D) TOPOLOGY: both

5

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

TAATAACCAT GGCATATGAG CGATAAAATT ATTACAC

36

(2) INFORMATION FOR SEQ ID NO:7:

- 10 (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 36 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: both  
    (D) TOPOLOGY: both

15 (ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

ATTATACCCG AGTCCACCAC GGATGCCATA TTTCGG

36

(2) INFORMATION FOR SEQ ID NO:8:

- 20 (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 280 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: both  
    (D) TOPOLOGY: both

(ii) MOLECULE TYPE: cDNA

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

CCATGCTCAT ATGAGCGATA AAATTATTCA CCTGACTGAC GACAGTTTTG ACACGGATGT	60
ACTCAAAGCG GACGGGGCGA TCCTCGTCGA TTTCTGGGCA GAGTGGTGCG GTCCGTGCAA	120
AATGATCGCC CCGATTCTGG ATGAAATCGC TGACGAATAT CAGGGCAAAC TGACCGTTGC	180

AAAACTGAAC ATCGATCAAA ACCCTGGCAC TGCGCCGAAA TATGGCATCC GTGGTGGACT 240

CGGGTACAAC ACTGACAATA AACACCACCA CCACCACCAC 280

(2) INFORMATION FOR SEQ ID NO:9:

- 5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 33 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: both  
(D) TOPOLOGY: both  
  
(ii) MOLECULE TYPE: cDNA

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

TAATAACTCG GGAGCGATAA AATTATTCAC CTG 33

(2) INFORMATION FOR SEQ ID NO:10:

- 15 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 33 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: both  
(D) TOPOLOGY: both  
  
(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

20 ATAATAACCCG AGTTTGGTTG CCGCCACTTC ACC 33

(2) INFORMATION FOR SEQ ID NO:11:

- 25 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 282 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: both  
(D) TOPOLOGY: both  
  
(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

CTCGGGAGCG ATAAAATTAT TCACCTGACT GACGACAGTT TTGACACGGA TGTACTCAAA 60  
GCGGACGGGG CGATCCTCGT CGATTTCTGG GCAGAGTGGT GCGGTCCGTG CAAAATGATC 120  
GCCCCGATTC TGGATGAAAT CGCTGACGAA TATCAGGGCA AACTGACCGT TGCAAAACTG 180  
AACATCGATC AAAACCCTGG CACTGCGCCG AAATATGGCA TCCGTGGTAT CCCGACTCTG 240  
5 CTGCTGTTCA AAAACGGTGA AGTGGCGGCA ACCAAACTCG GG 282

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 34 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: both  
(D) TOPOLOGY: both

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

TAATAACTCG GGAAGCTGAC TAATCCGGAA GTAG 34

15 (2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 33 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: both  
(D) TOPOLOGY: both

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

ATTATTCCCG AGCAGTGCGC GGTATTGATC CAG 33

(2) INFORMATION FOR SEQ ID NO:14:

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 138 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: both  
(D) TOPOLOGY: both

30 (ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

CTCGGGAAGC TGAATAATCC GGAAGTAGAA CTGCCGAACG CAGAACTGCT AGGCAAACGC 60  
CGTCTGGAAA AATTCGCCGC TAAAGTACAG CAGCAGCTGG AAAGCAGCGA TCTGGATCAA 120  
TACCGCGCAC TGCTCGGG 138

5 (2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 35 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: both  
(D) TOPOLOGY: both

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

GATTACTCGG GGCACATAAA ATGCTAAAAG ATACA 35

(2) INFORMATION FOR SEQ ID NO:16:

15 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: both  
(D) TOPOLOGY: both

20 (ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

TCTAACCCGA GTAAGATCGT TTTTCTTGAA CCACC 35

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 405 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: both  
(D) TOPOLOGY: both

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

	CTCGGGGCAC ATAAAATGCT AAAAGATACA GGCATTATTG CTATCAGCAT TGATGACTAT	60
	GAATTTGCTC ATTTAAAAAT ACTGATGGAT AAAATTTTCG GTGAAGATAA TTTCATCGGA	120
5	AATATCGTCG TTTGTCGTTC AAAAAATGGA AAAGTGAGCA AGCGAAATAT AGCGTCTGCT	180
	CATGAATATT TACTGGTTTA TGGAAAATCA GATATGGCGG AACTATCTGG ACAACCAGAT	240
	GATAAATCTC TTTATGATAA AGTTGATTGT TTTGGTGAAT ATAGAATTGA CGGAATGTTC	300
	AGAAAAAAG GTGATTCAAG TTTGAGAACT GATCGCCCTA ATATGTTTTA TCCTTTATAT	360
	TTTAACCCAT CAACAGGTGA AGTACAGGTA GAGCCAGAAC TCGGG	405